## 55. Can we assess the success of balloon pulmonary valvuloplasty by ECG

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*Introduction:* The gold standard for diagnosis of pulmonary stenosis (PS) is by echocardiography. P wave dispersion (PWD) indicates the spreading of the sinus stimulus in the atria.
*Aim of the work:* Study the effect of PS and its treatment by BPV on electrocardiographic (ECG) parameters as PWD and P wave amplitude.
*Patient & Methods:* Patients with moderate or severe valvular PS was enrolled in the study. PWD and maximum P amplitude (max P amplitude) on ECG were measured. The peak systolic pressure gradients (SPG) over the pulmonary valve were obtained. All cases were underwent BPV. Reassessment of SPG and ECG parameters were done immediately and one month later.
*Results:* Forty two patients were recruited .Their age ranged from 3 to 38 years. PWD before balloon had mean ± SD (0.06 ± 0.017). It decreased significantly to (0.04 ± 0.017) and (0.04 ± 0.013) immediately and One month after balloon respectively ($p$ value 0.001 ). The max P amplitude had mean ± SD before balloon (0.08 ± .027) and it decreased significantly to (0.07 ± 0.025) 1 month later ($p$ value 0.013). There was significant correlation between SPG and PWD ($p$ value <0.05). There was significant correlation between the drop in SPG after BPV and the change in max $p$ amplitude ($p$ value 0.041). However, there was non significant correlation between the drop in SPG and the change in PWD.
*Conclusion:* PWD and max P amplitude decrease significantly with BPV. The study demonstrated for the first time very simple ECG parameters; PWD and P amplitude that may predict the success of BPV on the short term.

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## 56. Echocardiography in PICU; the heart sees what is invisible to the eye

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*Objective:* Echocardiography has become an indispensible bedside diagnostic tool in the realm of pediatric intensive care units (PICU). It has proven to be an influential factor in the formula of clinical decision making. The intent of this study is to delineate the impact of echocardiography on the management of critically ill pediatric patients in our PICU.
*Design:* Retrospective case series.
*Setting:* Tertiary five- bed PICU in Sultan Qaboos University Hospital, Oman.
*Patients:* We reviewed all patients admitted to our PICU from January 2011 to December 2012.
*Intervention:* Bedside transthoracic echocardiography (echo) during the period of stay in the PICU.
*Results:* Over a-24-month period, 424 patients were admitted in our PICU. One hundred and one clinically indicated transthoracic echoes were performed. 82% of these echoes had new findings ($N$: 82) that significantly impacted the clinical decision of patient management namely altered drug therapy and procedure, whereas no difference in the management was yielded in the remaining 18% of the studied cases.
*Conclusions:* Echocardiography had a significant impact on the management of PICU patients. Such salutary effect was consequently reflected on the outcome. Pediatric intensivists are encouraged to acquire such bed side skill.

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## 57. Growth of left ventricular outflow tract after repair of ventricular septal defect and aortic arch obstruction

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*Background/Aim:* To study the growth of left ventricular outflow tract (LVOT) after repair of ventricular septal defect (VSD) and aortic arch obstruction.
*Methods:* Retrospective review was done for all patients who underwent repair of VSD and aortic arch obstruction (coarctation or interrupted aortic arch) between July 2002 and Jun 2013. Echocardiographic data was reviewed. We evaluated the growth rate of LVOT and the need for reintervention.
*Results:* There were 93 patients with mean age of 30 ± 41 days and mean weight of 3.2 ± 1 kg. Sixty-six of them (70%) had coarctation and 27 (30%) had interrupted aortic arch. There is significant LVOT growth noticed after repair of VSD and aortic arch obstruction. 84 patients had negative Z-score of LVOT at diagnosis (mean −1.78 ± 0.9) which had grown significantly at last follow up (mean −1.29 ± 1.4, $p$ = 0.003). Small LVOT was not a risk factor for LVOT obstruction. LVOT Z-score mean was −1.78 ± 0.9 versus −2.1 ± 0.75 in those who are free from reintervention versus those who had surgical reintervention, respectively ($p$ = 0.17). Young age, small weight and small aortic valve annulus were not correlating with the risk of reintervention as well.
*Conclusion:* There is significant LVOT growth expected after repair of VSD and aortic arch obstruction. Small aortic valve and LVOT at diagnosis of those cases are not correlating with the need of surgical reintervention for LVOT obstruction.

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